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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/842,931	04/26/2001	Kazunobu Uehara	F-6961	1189

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Jordan and Hamburg
122 East 42nd Street
New York, NY 10168

EXAMINER	
CASCHERA, ANTONIO A	
ART UNIT	PAPER NUMBER
2676	

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	09/842,931	UEHARA ET AL.
	Examiner	Art Unit
	Antonio A. Caschera	2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,4,6-9,11,12 and 14-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6-9,11,12 and 14-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 April 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in the pending application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 3, 4, 6-9, 11, 12 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watari et al. (U.S. Patent 6,154,197), Yamashita et al. (U.S. Patent 5,982,377) and further in view of Stallkamp (U.S. Patent 4,827,250).

In reference to claims 1, 7 and 9, Watari et al. discloses an image generating method for use in gaming systems, to project (by perspective projection) virtual three-dimensional objects onto a two-dimensional plane (see column 1, lines 5-11). Watari et al. discloses using polygons to represent objects of the display (see column 5, lines 19-23) by converting the world coordinates of these polygons to a two-dimensional system which represents the virtual space viewed from a visual point (see column 5, lines 42-54). Further, Watari et al. discloses the polygon data representing physical objects such as a player's robot, enemy robots, and elements of terrain (see column 5, lines 20-23). Note, the office believes that the RAM of Watari et al. inherently comprises of sets of polygon vertex coordinates, each set, constituting a single three-dimensional object as three-dimensional objects are commonly made up of sets or groups of polygons (Official Notice). Watari et al. also discloses a ROM for storing the polygon data and a RAM for storing data required for polygon coordinate conversion (see column 5, lines 6-10 and 19-20). Watari et al. discloses the CPU creating and passing perspective coordinate matrix data to a geometalyzer that performs the perspective conversion of polygon data from the ROM unit (see column 7, lines 4-22). Note, the office interprets the RAM of Watari et al. equivalent to a temporary storage for perspective conversion matrix data. Further, the office interprets the geometalyzer for fixing the coordinate system to a view coordinate system in a three-dimensional space and performing perspective conversion of polygon data using conversion matrix data sent from the CPU (see column 7, lines 4-22). Watari et al. also discloses a displaying device applying texture to the polygon data and sending the textured data to a frame buffer to be displayed on a monitor (see column 8, lines 28-31 and #112 of Figure 1). Note, since Watari et al. discloses sending converted textured polygon data to a frame buffer, the office interprets that Watari et al. inherently discloses displaying all of the objects at the same time based upon the sets of converted vertex coordinates because a frame buffer ordinarily stores one full image screen which comprises those sets of converted vertex coordinates that have been converted. Watari et al. does not explicitly disclose reading out a new plurality of conversion matrices however Yamashita et al. does. Yamashita et al. discloses a three-dimensional graphic displaying system and method allowing a viewpoint of a graphic to change when the graphic is rotated or moved (see lines 1-3 of abstract). Yamashita et al. discloses utilizing six conversion matrices, at the same time, to perform coordinate conversion processing (see column 10, lines 6-12). Yamashita et al. discloses calculating and/or receiving values used in representing the matrices before performing computations using the matrices (see #S11-S15 of Figure 17), therefore the office interprets such matrices as "predetermined" matrices. Yamashita et al. discloses multiplying the six matrices together with elements of the first matrix comprising of coordinates of an original graphic (see column 10, lines 12-31). Note, the office interprets multiplying the above matrices together equivalent to the claimed language of applicants claims stating the matrices are, "...used at the same time..." Yamashita et al. discloses performing the coordinate conversion process on all coordinate points of the graphic (see column 10, lines 6-10) which the office interprets equivalent to vertex coordinates of applicant's claims as vertex coordinates are considered included in, "all coordinates of the graphic." Yamashita et al. also discloses an embodiment where not just one graphic but a plurality of graphics is displayed (see columns 11-12, lines 64-10 and Figures 24 and 25), since these objects are computed using "predetermined" matrices the objects themselves are interpreted as also inherently being "predetermined." Note, the office interprets that Yamashita et al. produces a plurality of sets of converted vertex coordinates of the polygons as Yamashita et al. discloses converting each coordinate point of a graphic and terminating conversion processing when no unconverted points remain (see column 10, lines 6-10). Further, the office interprets that the matrices used in the coordinate conversion of Yamashita et al. are; "different from each other" and "newly read out" since the matrices comprise of rotational and expansion values that change based on the movement of the graphic, therefore creating matrices with different values (see columns 9-10, lines 65-31 and #S16 of Figure 17, the sin and cos functions and value s). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the image generation method and apparatus of Watari et al. with the coordinate conversion techniques of Yamashita et al. in order to calculate graphic coordinates of an object which vary depending on a position of a user viewpoint (see lines 8-11 of abstract of Yamashita et al.). Neither Watari et al. nor Yamashita et al. explicitly disclose the 3D objects being of an identical shape and formed at different positions however Stallkamp does. Stallkamp discloses a graphics display system configured to transform model data representing a basic shape of an object into display data (see column 1, lines 6-12). Stallkamp further discloses utilizing matrix computations to transform model data in accordance with position, orientation and scaling data (see column 1, lines 36-43 and column 3, lines 5-14). Lastly, Stallkamp explicitly discloses the utilization of 3D graphics by the disclosed system (see column 4, lines 22-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the model data transformation techniques of Stallkamp with the image generation method and apparatus of Watari et al. and coordinate conversion techniques of Yamashita et al. in order to provide a showing of 2D or 3D objects onto a display screen, transforming these objects at relatively high speeds (see column 2, lines 40-49 of Stallkamp). Note, in reference to claim 9, Watari et al. also discloses another ROM unit (#102 of Figure 1) that stores a program that executes the conversion processes (see columns 3-4, lines 66-5) (see *Response to Arguments* below).

In reference to claims 3, 6, 11 and 14, Watari et al., Yamashita et al. and Stallkamp disclose all of the claim limitations as applied to claims 1, 4, 9 and 12 respectively. The office interprets that Yamashita et al. produces a plurality of sets of converted vertex coordinates of the polygons as Yamashita et al. discloses converting each coordinate point of a graphic and terminating conversion processing when no unconverted points remain (see column 10, lines 6-10). Further, the office interprets that the matrices used in the coordinate conversion of Yamashita et al. are; "different from each other" and "newly read out" since the matrices comprise of rotational and expansion values that change based on the movement of the graphic, therefore creating matrices with different values (see columns 9-10, lines 65-31 and #S16 of Figure 17, the sin and cos functions and value s).

In reference to claims 4, 8 and 12, claims 4, 8 and 12 are similar in scope to claims 1, 7 and 9 and therefore are rejected under similar rationale. Note, Watari et al. also discloses data busses connecting the various hardware units, in particular the shape data ROM (see #111 of Figure 1) and the conversion matrix storing RAM (see #103 of Figure 1) with the conversion unit, the geometalyzer (see #110 of Figure 1). The office interprets these data lines to be equivalent to a transfer unit allowing for the transfer of data from the storage units. Neither Watari et al. nor Yamashita et al. explicitly disclose transferring the plurality of perspective conversion matrices different from each other after transferring the polygon coordinate data however at the time the invention was made, it would have been obvious to one of ordinary skill in the art to transfer data in a certain way which best suits the application at hand or which is preferred by the designer. Applicant has not disclosed that transferring the plurality of perspective conversion matrices different from each other after transferring the polygon coordinate data provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with the data transferring methods of Watari et al. and

Yamashita et al. because the order in which such above data is transferred provides no immediate criticality to the application at hand, as seen by the office, since both pieces of data are needed for the conversion calculation. Therefore, it would have been obvious to one of ordinary skill in this art to modify Watari et al. and Yamashita et al. to obtain the invention as specified in claims 4, 8 and 12. Note, in reference to claim 12, Watari et al. also discloses another ROM unit (#102 of Figure 1) that stores a program that executes the conversion processes (see columns 3-4, lines 66-5) (see *Response to Arguments* below).

In reference to claims 15-22, Watari et al., Yamashita et al. and Stallkamp disclose all of the claim limitation as applied to claims 1, 4, 7, 8, 9, 12, 1, 4 respectively above. Yamashita et al. discloses utilizing six conversion matrices to perform coordinate conversion processing (see column 10, lines 6-12). Yamashita et al. discloses multiplying the six matrices together with elements of the first matrix comprising of coordinates of an original graphic data (see column 10, lines 12-31). This original graphic data is multiplied by the different conversion matrices to produce converted coordinates (see columns 1-3 of 1st matrix in step #S16 of Figure 17 and column 10, lines 11-16 of Yamashita et al.).

Response to Arguments

3. Applicant's arguments filed 10/26/05 have been fully considered but they are not persuasive.

In reference to claims 1, 3, 4, 6-9, 11, 12 and 14-22, Applicant amends the independent claims to recite language that the conversion matrices are "predetermined," and states that none of the cited references teach such a limitation (see pages 17-18 of Applicant's Remarks). The office disagrees and broadly interprets Yamashita et al. to teach such a feature as Yamashita et al. discloses calculating and/or receiving values used in representing the matrices before performing computations using the matrices (see #S11-S15 of Figure 17). Such calculating and/or receiving of matrices values establishes the matrices before calculation, which the office interprets equivalent to being, "predetermined."

Further, Applicant has amended the independent claims to recite the limitation of, "..the plurality of polygons defining a predetermined plurality of three-dimensional objects..." and argues that none of the cited references teach such a limitation (see 17-18 of Applicant's Remarks). Applicant goes on to further explain this feature of the invention indicating that, "...the predetermined plurality of different conversion matrices are applied to the basic data of one three-dimensional object to produce many three-dimensional objects of the number identical to the number of matrices," (see page 16 of Applicant's Remarks). With the above amendments to the claims, the office does not specifically see such feature brought out by the current claim language. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). The office interprets that Yamashita et al. does disclose the plurality of polygons defining a predetermined plurality of objects since Yamashita et al. discloses an embodiment where not just one graphic but a plurality of graphics is displayed (see columns 11-12, lines 64-10 and Figures 24 and 25) and because of the interpretation of Yamashita et al. producing a plurality of sets of converted vertex coordinates of the polygons as Yamashita et al. discloses converting each coordinate point of a graphic and terminating conversion processing when no unconverted points remain (see column 10, lines 6-10).

Applicant also argues that none of the cited references teach that the, "...image processor forms all of the predetermined plurality of three-dimensional objects of an identical shape at different positions at the same time," (see pages 17-18 of Applicant's Remarks). The Office disagrees and interprets the combination of the cited references to teach such a feature. Specifically, since Yamashita et al. discloses calculating and/or receiving values used in representing the matrices before performing computations using the matrices (see #S11-S15 of Figure 17), utilizing six conversion matrices, at the same time, to perform coordinate conversion processing (see column 10, lines 6-12) and Stallkamp discloses utilizing matrix computations to transform model data in accordance with position, orientation and scaling data (see column 1, lines 36-43 and column 3, lines 5-14), the combination of Watari et al., Yamashita et al. and Stallkamp teach the limitation of forming a plurality of three-dimensional objects of an identical shape at different positions at the same time.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Antonio Caschera whose telephone number is (571) 272-7781. The examiner can normally be reached Monday-Thursday and alternate Fridays between 7:30 AM and 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (571) 272-7778.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Matthew C. Bella

aac
AAC.
12/29/05

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